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Our Case No. 659/930

## IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:	)	
	)	
Mark A. Burazin, Roger E. Wendler, Jr., and	)	
Jeffrey D. Lindsay	)	Examiner: To Be Assigned
	)	
Serial No.: To Be Assigned	)	Group Art Unit No.: To Be Assigned
	)	
Filing Date: To Be Assigned	)	
	)	
For: Masking Patterns To Enhance Apparent	)	
Opacity Of Paper Products	)	

### PRELIMINARY AMENDMENT

Commissioner for Patents  
Washington, D.C. 20231

Dear Sirs:

Prior to examination of the above-identified application, please amend the application as follows:

### RELATED APPLICATION

On page 1, line 4 of the first paragraph, please insert after "This application is", the following:  
a divisional of Patent Application Serial No. 09/468,502, filed December 21, 1999, which

### IN THE CLAIMS

Please delete claims 6 – 10.

Please amend claims 11 – 37, now renumbered as 6 – 32, to read as follows:

6. A paper product having a degree of translucency in the unprinted state, comprising a masking pattern to camouflage the transparency of the paper product formed by printing an ink on the paper product, the printed ink on the paper product having a color within a color range for L, a, and b of the HunterLab Color Scale, calculated according to

$$\begin{aligned}L_{\text{ink}} &= L_{\text{tissue}} + W \\a_{\text{ink}} &= a_{\text{tissue}} + C2(a_{\text{hand}} - a_{\text{tissue}}) \\b_{\text{ink}} &= b_{\text{tissue}} + C3(b_{\text{hand}} - b_{\text{tissue}})\end{aligned}$$

wherein  $L_{\text{ink}}$ ,  $a_{\text{ink}}$ , and  $b_{\text{ink}}$ , respectively, are meter measurements of the printed ink on the paper product,  $L_{\text{tissue}}$ ,  $a_{\text{tissue}}$ , and  $b_{\text{tissue}}$ , respectively, are meter measurements of the unprinted paper product,  $a_{\text{hand}}$ , and  $b_{\text{hand}}$ , respectively, are meter measurements of a human palm, W is in the range from 0 to about 15, and C2 and C3 each is in the range from about 0 to about 1.

7. The paper product of claim 6 in which C2 and C3 each is in the range from about 0 to about 0.75.

8. The paper product of claim 6 in which C2 and C3 each is in the range from about 0 to about 0.5.

9. The paper product of claim 6 in which C2 and C3 each is in the range from about 0.25 to about 0.5.

10. The paper product according to claim 6, wherein W is in the range from about 0 to about 12.

11. The paper product according to claim 6, wherein W is in the range from about 2 to about 10.

12. A paper product having at least partial translucency in the unprinted state, said paper product printed with at least one masking pattern to camouflage the transparency of the paper product formed by printing an ink on the paper product, the printed ink on the paper product having a color within a color range for L, a, and b values of the HunterLab Color Scale calculated according to

$$L_{\text{ink}} = L_{\text{tissue}} + C4 (L_{\text{h+t}} - L_{\text{tissue}})$$

$$a_{\text{ink}} = a_{\text{tissue}} + C5 (a_{\text{h+t}} - a_{\text{tissue}})$$

$$b_{\text{ink}} = b_{\text{tissue}} + C6 (b_{\text{h+t}} - b_{\text{tissue}})$$

wherein  $L_{\text{ink}}$ ,  $a_{\text{ink}}$ , and  $b_{\text{ink}}$ , respectively, are meter measurements of the printed ink on the paper product;  $L_{\text{tissue}}$ ,  $a_{\text{tissue}}$ ,  $b_{\text{tissue}}$ , respectively, are meter measurements of the unprinted paper product;  $L_{\text{h+t}}$ ,  $a_{\text{h+t}}$ , and  $b_{\text{h+t}}$ , respectively, are meter measurements of the unprinted paper product placed on the palm of a human hand; C4 is in the range from -0.5 to 1, and C5 and C6 each is in the range from about 0 to about 1.

13. The paper product of claim 12 above in which C4, C5, and C6 each is in the range from about 0 to about 1.

14. The paper product of claim 12 above in which C4, C5, and C6 each is in the range from about 0 to about 0.75.

15. The paper product of claim 12 above in which C4, C5, and C6 each is in the range from about 0 to about 0.5.

16. The paper product of claim 12 above in which C4, C5, and C6 each is in the range from about 0.25 to about 0.5.

17. The paper product of claims 1, 6 or 12 having an unprinted opacity of about 70 or less.

18. The paper product of claims 1, 6 or 12 having an unprinted opacity of about 65 or less.

19. The paper product of claims 1, 6 or 12 having an unprinted opacity of about 60 or less.

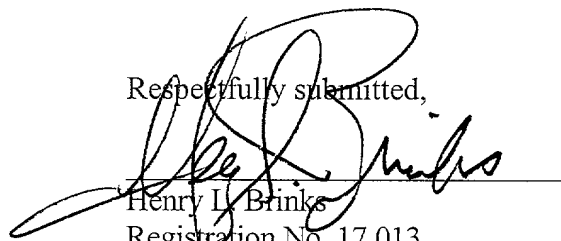
20. The paper product of claims 1, 6 or 12 having an unprinted opacity of about 55 or less.

21. The paper product of claims 1, 6 or 12 wherein the paper product is an uncreped through-airdried product.

22. The paper product of claims 1, 6 or 12 wherein the paper product is a facial tissue.
23. The paper product of claims 1, 6 or 12 wherein the paper product is bath tissue.
24. The paper product of claims 1, 6 or 12 wherein the paper product is a towel.
25. The paper product of claims 1, 6 or 12 wherein the paper product is a napkin.
26. The paper product of claims 1, 6 or 12 wherein the paper product has a pattern substantially as shown in Figure 1 or Figure 2.
27. The paper product according claims 1, 6 or 12, wherein  $a_{\text{hand}}$  is about 12 and  $b_{\text{hand}}$  is about 13.
28. The paper product of claims 1, 6 or 12 wherein the ink is printed on the paper product with a nonuniform print density.
29. The paper product of claims 1, 6 or 12 further comprising a second ink printed in a second pattern.
30. The paper product of claims 1, 6 or 12, wherein the printed masking pattern is not readily discernible to the human eye when viewed from a distance of 3 feet.
31. The paper product according to claims 1, 6 or 12, wherein  $L_{\text{hand}}$  is about 55,  $a_{\text{hand}}$  is about 12 and  $b_{\text{hand}}$  is about 13.

32. The paper product according to claims 1, 6 or 12, wherein  $L_{\text{hand}}$  is about 45,  $a_{\text{hand}}$  is about 12 and  $b_{\text{hand}}$  is about 13.

Respectfully submitted,



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**APPENDIX A**  
**NEW DIVISIONAL APPLICATION**  
**ATTORNEY DOCKET NO. 659/930**  
**“MASKING PATTERNS TO ENHANCE APPARENT OPACITY**  
**OF PAPER PRODUCTS”**  
**Burazin et al.**

**RELATED APPLICATION**

On page 1, line 4 of the first paragraph, please insert after “This application is”:  
a divisional of Patent Application Serial No. 09/468,502, filed December 21, 1999, which

**IN THE CLAIMS**

Please delete claims 6 – 10.

[6. The process of applying at least one masking pattern to a paper product that is at least partially translucent, comprising:

- a) providing a paper product having at least one ply that is at least partially translucent;
- b) measuring at least one sample of said paper product with a meter for the values of L, a, and b of the HunterLab Color Scale;
- c) measuring at least one hand with a meter for the values of L, a, and b of the HunterLab Color Scale;
- d) formulating an ink with a color using the HunterLab Color Scale in which L, a, and b for the ink which when printed on said paper product is in the range of the values:

$$L_{\text{ink}} = L_{\text{tissue}} + C1 (L_{\text{hand}} - L_{\text{tissue}})$$

$$a_{\text{ink}} = a_{\text{tissue}} + C2 (a_{\text{hand}} - a_{\text{tissue}})$$

$$b_{\text{ink}} = b_{\text{tissue}} + C3 (b_{\text{hand}} - b_{\text{tissue}})$$

wherein  $L_{\text{tissue}}$  and  $L_{\text{hand}}$  are said meter measurements of at least one paper product sample and at least one hand reading respectively;

wherein  $a_{\text{tissue}}$  and  $a_{\text{hand}}$  are said meter measurements of at least one paper product sample and at least one hand reading respectively;

wherein  $b_{\text{tissue}}$  and  $b_{\text{hand}}$  are said meter measurements of at least one paper product sample and at least one hand reading respectively;

and wherein C1 is in the range from about -0.5 to about 1, and C2 and C3 each is in the range from 0 to about 1; and

e) printing said formulated ink in a pattern on at least one ply of said paper product.

7. The process of claim 6 in which C1, C2 and C3 each is in the range from about 0 to about 1.

8. The process of claim 6 in which C1, C2 and C3 each is in the range from about 0 to about 0.75.

9. The process of claim 6 in which C1, C2 and C3 each is in the range from about 0 to about 0.5.

10. The process of claim 6 in which C1, C2 and C3 each is in the range from about 0.25 to about 0.5.]

Please amend claims 11 – 37 as follows:

6. [11.] A paper product having a degree of translucency in the unprinted state, comprising a masking pattern to camouflage the transparency of the paper product formed by printing an ink on the paper product, the printed ink on the paper product having a color within a color range for L, a, and b of the HunterLab Color Scale, calculated according to

$$\begin{aligned}L_{\text{ink}} &= L_{\text{tissue}} + W \\a_{\text{ink}} &= a_{\text{tissue}} + C2(a_{\text{hand}} - a_{\text{tissue}}) \\b_{\text{ink}} &= b_{\text{tissue}} + C3(b_{\text{hand}} - b_{\text{tissue}})\end{aligned}$$

wherein  $L_{\text{ink}}$ ,  $a_{\text{ink}}$ , and  $b_{\text{ink}}$ , respectively, are meter measurements of the printed ink on the paper product,  $L_{\text{tissue}}$ ,  $a_{\text{tissue}}$ , and  $b_{\text{tissue}}$ , respectively, are meter measurements of the unprinted paper product,  $a_{\text{hand}}$ , and  $b_{\text{hand}}$ , respectively, are meter measurements of a human palm, W is in the range from 0 to about 15, and C2 and C3 each is in the range from about 0 to about 1.

7. [12.] The paper product of claim 6 [11] in which C2 and C3 each is in the range from about 0 to about 0.75.

8. [13.] The paper product of claim 6 [11] in which C2 and C3 each is in the range from about 0 to about 0.5.

9. [14.] The paper product of claim 6 [11] in which C2 and C3 each is in the range from about 0.25 to about 0.5.

10. [15.] The paper product according to claim 6 [11], wherein W is in the range from about 0 to about 12.

11. [16.] The paper product according to claim 6 [11], wherein W is in the range from about 2 to about 10.

12. [17.] A paper product having at least partial translucency in the unprinted state, said paper product printed with at least one masking pattern to camouflage the transparency of the paper product formed by printing an ink on the paper product, the printed ink on the paper product having a color within a color range for L, a, and b values of the HunterLab Color Scale calculated according to

$$\begin{aligned}L_{\text{ink}} &= L_{\text{tissue}} + C4 (L_{\text{h+t}} - L_{\text{tissue}}) \\a_{\text{ink}} &= a_{\text{tissue}} + C5 (a_{\text{h+t}} - a_{\text{tissue}}) \\b_{\text{ink}} &= b_{\text{tissue}} + C6 (b_{\text{h+t}} - b_{\text{tissue}})\end{aligned}$$

wherein  $L_{\text{ink}}$ ,  $a_{\text{ink}}$ , and  $b_{\text{ink}}$ , respectively, are meter measurements of the printed ink on the paper product;  $L_{\text{tissue}}$ ,  $a_{\text{tissue}}$ ,  $b_{\text{tissue}}$ , respectively, are meter measurements of the unprinted paper product;  $L_{\text{h+t}}$ ,  $a_{\text{h+t}}$ , and  $b_{\text{h+t}}$ , respectively, are meter measurements of the unprinted paper product placed on the palm of a human hand; C4 is in the range from -0.5 to 1, and C5 and C6 each is in the range from about 0 to about 1.

13. [18.] The paper product of claim 12 [17] above in which C4, C5, and C6 each is in the range from about 0 to about 1.

14. [19.] The paper product of claim 12 [17] above in which C4, C5, and C6 each is in the range from about 0 to about 0.75.

15. [20.] The paper product of claim 12 [17] above in which C4, C5, and C6 each is in the range from about 0 to about 0.5.



16. [21.] The paper product of claim 12 [17] above in which C4, C5, and C6 each is in the range from about 0.25 to about 0.5.

17. [22.] The paper product of claims 1, 6 [11] or 12 [17] having an unprinted opacity of about 70 or less.

18. [23.] The paper product of claims 1, 6 [11] or 12 [17] having an unprinted opacity of about 65 or less.

19. [24.] The paper product of claims 1, 6 [11] or 12 [17] having an unprinted opacity of about 60 or less.

20. [25.] The paper product of claims 1, 6 [11] or 12 [17] having an unprinted opacity of about 55 or less.

21. [26.] The paper product of claims 1, 6 [11] or 12 [17] wherein the paper product is an uncreped through-airdried product.

22. [27.] The paper product of claims 1, 6 [11] or 12 [17] wherein the paper product is a facial tissue.

23. [28.] The paper product of claims 1, 6 [11] or 12 [17] wherein the paper product is bath tissue.

24. [29.] The paper product of claims 1, 6 [11] or 12 [17] wherein the paper product is a towel.

25. [30.] The paper product of claims 1, 6 [11] or 12 [17] wherein the paper product is a napkin.

26. [31.] The paper product of claims 1, 6 [11] or 12 [17] wherein the paper product has a pattern substantially as shown in Figure 1 or Figure 2.

27. [32.] The paper product according claims 1, 6 [11] or 12 [17], wherein  $a_{\text{hand}}$  is about 12 and  $b_{\text{hand}}$  is about 13.

28. [33.] The paper product of claims 1, 6 [11] or 12 [17] wherein the ink is printed on the paper product with a nonuniform print density.

29. [34.] The paper product of claims 1, 6 [11] or 12 [17] further comprising a second ink printed in a second pattern.

30. [35.] The paper product of claims 1, 6 [11] or 12 [17], wherein the printed masking pattern is not readily discernible to the human eye when viewed from a distance of 3 feet.

31. [36.] The paper product according to claims 1, 6 [11] or 12 [17], wherein  $L_{hand}$  is about 55,  $a_{hand}$  is about 12 and  $b_{hand}$  is about 13.

32. [37.] The paper product according to claims 1, 6 [11] or 12 [17], wherein  $L_{hand}$  is about 45,  $a_{hand}$  is about 12 and  $b_{hand}$  is about 13.